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(71)(72) Applicants and Inventors: MILAWSKI, Scott, J. [US/US]; 2912 North Noble Avenue, Golden Valley, MN 55422 (US). HAUCK, Frederick, W. [US/US]; 8525 33rd Avenue North, Crystal, MN 55427 (US).

(74) Agents: SEAGER, Glenn, M. et al.; Crompton, Seager & Tufte, LLC, Suite 895, 331 Second Avenue South, Minneapolis, MN 55401 (US).

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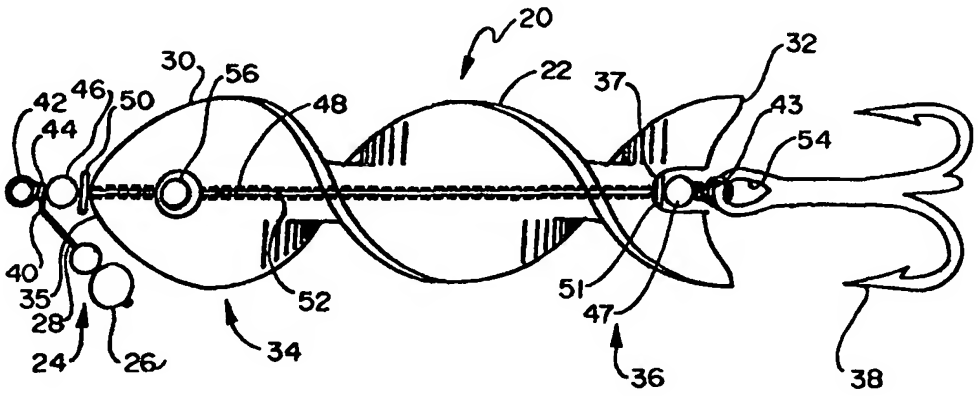

(57) Abstract

A fishing lure (20) having a helical body (22) with a lumen (48). A wire (40) passes through the body and has a weight (26) mounted on counter–balance arm (28). The wire has an eyelet (42) to attach a fishing line and hook (38) attached to the opposite end. Beads (46–47) are mounted on the wire to reduce rotational forces and any forces transmitted to the wire are at least partially opposed by the counter–balance arm.

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TWISTED, SPINNING FISHING LURE AND COUNTERWEIGHT

Field of the Invention

The present invention relates to fishing lures and, in particular, to fishing lures which eliminate the twist in fishing line caused by the rotation of the lure.

Background of the Invention

Success in fishing is highly dependent upon the equipment and tackle an angler uses. Thus, innovations in equipment and tackle remain constant in order to shift the success in fishing in favor of the angler. Innovations in tackle, however, especially capture the attention of anglers. A lure that accurately simulates the appearance and actions of fish bait are virtually guaranteed success. One type of lure intended to simulate the appearance and actions of a fish is the spinning lure.

The problems associated with spinning lures originate from the rotation of the lure. When a spinning lure is rotated through water, the action of rotation is not confined to the lure alone. This action is also transposed onto the fishing line. This transportation phenomenon is called line twist. Line twist plagues anglers because of the potentially damaging effects that result to the angler's equipment. In particular, spinning reels which hold the line, and the line itself, are common casualties of line twist. The amount of twist introduced into the line generally increases with each cast of a spinning lure. As the twisted line is repeatedly rewound onto the spinning reel by repeated casts of the spinning lure, the twisted line will eventually unravel from the reel rendering the reel temporarily

inoperable. To correct this problem, the unraveled and twisted line is typically cut from the spool and discarded.

Numerous prior art devices have tried to resolve the problem of line twist. In U.S. Patent No. 5,263,277, Kelly discloses a lure that is designed specifically to remove the twist that pre-exists in the fishing line. In this design, fins are attached to the lure to impart a controlled spin in the opposite direction as the line twist. The lure is additionally designed to catch fish. Thus, with every cast of the lure, the angler is able to remove the line twist and fish at the same time. This design, however, makes determining the precise amount of correction needed difficult. Conceivably, one excess cast of the lure would result in an over-correction, once again causing line twist.

Most prior art devices, however, are designed to resist the twisting of the line as the result of the motion or movements of the lure through the water. In U.S. Patent No. 5,245,781, Helmuth discloses a lure having a helical shaped spinner body mounted on a wire lanyard. The helical spinner body is disposed on the lanyard through openings within the helical spinner body. Helmuth teaches that because the helical spinner body is not directly attached to the lanyard, the rotation of the lure through the water will not be transposed to the fishing line. This design, however, does not take into consideration fluid dynamics and friction. If the spinning lure is retrieved at a reasonable speed, the rotational friction exerted upon the lanyard will be enormous. As a result, the lanyard will indeed rotate causing line twist.

Another device disclosed in U.S. Patent No. 4,501,087 to Blomquist positions an additional element onto the lure specifically designed to prevent line twist. Blomquist discloses a lure having a swivel element which when acted upon by water, resists rotation. The impedance of the lure's rotation subsequently prevents twisting in the fishing line. The dilemma associated with fluid dynamics and friction apply to this design as well.

Summary of the Invention

The present invention comprises a spinning lure that eliminates line twisting in light of the problems associated with fluid dynamics and friction. The present invention also provides a fishing lure that attracts fish to strike. One lure according to the present invention includes a rotatable helical body element which propagates optical and hydrodynamic effects through the water.

The present invention avoids the disadvantages of the prior art devices by applying a counter-balance arm. As the lure is drawn through the water, the helical segment of the lure is allowed to freely rotate around a shaft. However, as frictional forces increase between the spinning helical segment and shaft, the counter-balance arm prohibits the rotation of the shaft. Thus, the fishing line will not twist.

By insuring that line twist will not occur, alternate design configurations were developed to enhance the presentation of the lure itself. The present invention utilizes the counter-balance arm in spinning lure designs that contain

more than one helical body segment, spoons, dressing material, and with other performance enhancing additions.

Brief Description of the Drawings

Figure 1 is a perspective view of a fishing lure including a counterbalance arm and a helical body element having a tapered head and a fluked tail;

Figure 2 is a perspective view of a tapered midsection fishing lure including a counterbalance arm, a proximal helical segment having a tapered distal end, an intermediate treble hook, and a distal helical segment having a flaked tail;

Figure 3 is a perspective view of a tapered midsection fishing lure similar to the lure of Figure 2, but not having an intermediate treble hook;

Figure 4 is a non-tapered midsection fishing lure including a counterbalance arm, a proximal helical segment having a non-tapered distal end, and a distal helical segment having a non-tapered proximal end and a distal fluked tail;

Figure 5 is a perspective view of a fishing lure including a counterbalance arm and a helical body element, where the counterbalance includes a weighted artificial fly;

Figure 6 is a fishing lure including a counterbalance arm and a helical body element, the helical body element including a hook and a head;

Figure 7 is a fishing lure including a counterbalance arm and a helical body element having a hook and dressing material disposed at the distal end, where the counterbalance includes a spoon; and

Figure 8 is a fishing lure including a counterbalance arm and a helical body element having a distal eyelet, where the counterbalance includes a weighted artificial fly.

Detailed Description of the Drawings

Figure 1 is a fishing lure 20 including a helical body 22 and a counterbalance 24. Lure 20 includes a proximal region 34, a proximal end surface 35, a distal region 36, and a distal end surface 37. Counterbalance 24 includes a weight 26 disposed about a counterbalance arm 28. Counterbalance arm 28 is preferably formed of a wire 40, which continues to form an eyelet 42, which is created by a wire twist 44. Weight 26 can include multiple weight elements, preferably formed of lead and having a lumen therethrough for stringing over wire 40. Wire 40 can continue distally from eyelet 42 through a proximal bead or weight 46 and further through a proximal bearing or washer element 50. Bead 46 and washer 50 form a bearing to reduce rotational forces brought to bear on wire 40 including eyelet 42. Wire 40 can continue distally through a lumen 48 in helical body 22, forming a lanyard portion 52 of wire 40. Wire 40 can continue distally through a distal bearing or washer 51 and through a lumen in a distal bead or weight 47, terminating in a distal eyelet 43. Eyelet 43 is secured to an eyelet 54 in treble hook 38. In a preferred embodiment, a lure eye 56 is disposed on at least one side of helical body proximal region 34.

In use, fishing lure 20 can be attached to a fishing line through proximal eyelet 42. As lure 20 is pulled through the water, helical member 22 rotates about

the longitudinal axis and lumen 48. This rotation propagates optical indications of movement to gamefish. As helical body 22 rotates, hydrodynamic waves are created by this rotation and these waves are sensed by game fish, adding to effectiveness of the lure. As helical body 20 rotates about the longitudinal axis, proximal end surface 35 rotates against the bearing 50. To the extent any rotation is imparted to bearing 50, bearing 50 rotates against the proximal bead 46. In this way, very little, if any, rotation is imparted to wire twist 44 and eyelet 42. Any rotation imparted to eyelet 42 is counteracted by counterbalance 24. Counterbalance 24, by operation of gravity acting on the arm, provides a downward stabilizing force acting to prevent weight 26 from rotating upward in either direction. Counterbalance 24 also guides weeds past hook 38 without snagging. As helical body 22 rotates about lumen 48, some frictional rotational force is imparted to lanyard wire portion 52 extending through the lumen. This rotational friction force is also substantially, if not totally, counteracted by counterbalance 24. At distal end 37, distal bearing 51 and distal bead 47 also act to reduce any rotational force applied to distal eyelet 43 by distal surface 37.

Referring now to Figure 2, a dual segment lure 62 is illustrated, having a proximal tapered helical segment 64 and a distal, fluked tail, helical segment 66, joined by a midsection 68 through a union 69. Union 69 includes a pair of eyelets 70, beads 72, and washers 74. A second treble hook 39 is secured to union 69 as well. Lure 62 provides a second hook and therefore a second location for a game fish to strike. Referring now to Figure 3, another two-segment lure 76 is illustrated. Lure 76 includes proximal, tapered helical segment 64 and distal,

fluked tail, helical segment 66, joined by union 69. Lure 76 is similar to lure 62 of Figure 2, but not having second treble hook 39.

Referring now to Figure 4, another two-segment lure 78 is illustrated, having a non-tapered midsection 84. This may be contrasted with tapered midsection 77 of lure 76 in Figure 3. Lure 78 includes a proximal, helical section 80 having a flat edge, non-tapered distal end and a distal, helical segment 82 having a flat edge, non-tapered proximal end.

Referring now to Figure 5, a lure 84 is illustrated having a lure or fly 86. Lure 84 includes an arm 88 having two segments joined by an eyelet 90. Fly 86 thus functions as a weight at the end of the counter balance arm. Arm 88 is attached to both fly 86 and helical body element 22. Fly 86 includes a head 92, a collar 94, dressing material 96, and a hook 98. Head 92 is preferably weighted, most preferably formed of a metal. Dressing material 96 can be selected from materials well known to those skilled in the art, such as buck tail, feather, and plastic. Lure 84 can resemble a fish and a minnow swimming in tandem. To a game fish, it may appear that helical segment 22 is a fish chasing fly or minnow 86.

Referring now to Figure 6, a lure 100 is illustrated having a fly 102 attached to one part of arm 88 and a helical lure 106 attached to the other part of arm 88. Helical lure 106 includes head 92, helical member 22, and distal hook 104. In a preferred embodiment, distal hook 104 is secured to helical lure 106 through washer 74 and bead 72, as discussed previously.

Referring now to Figure 7, another lure 108 is illustrated having a spoon 110 secured to one part of arm 88 and a helical lure 112 secured to the other part of arm 88. Helical lure 112 includes head 92, helical member 22, and fly 102, including collar 94, dressing 96, and hook 98.

Referring now to Figure 8, yet another embodiment of the invention is illustrated in lure 114. Lure 114 includes a non-tapered helical lure 116, including distal eyelet 70 for attaching other devices. Non-tapered helical lure 116 is secured to one part of arm 88, and fly 86, discussed with respect to Figure 5, is attached to the other part of arm 88.

The present invention provides a lure attractive to many game fish through the spinning action of the various helical segments. The spinning helical segments provide an optical attraction for game fish through the reflection of light off the helical members. The reflected light from the rotating helical members provides movement and/or the illusion of movement in a direction other than the direction of the lure being pulled. The rotation also generates hydrodynamic waves as discussed previously. The counterbalance arm provides a counteracting force to prevent the proximal eyelet attached to the fishing line from rotating. Inhibiting this rotation greatly resists the tendency to rotate the fishing line as discussed previously which can act to interfere with use of fishing gear. The present invention is suitable for use with spinner bait, buzz bait, and crank bait.

Numerous characteristics and advantages of the invention covered by this document have been set forth in the foregoing description. It will be understood, however, that this disclosure is, in many respects, only illustrative. Changes may

be made in details, particularly in matters of shape, size, and arrangement of parts without exceeding the scope of the invention. The invention's scope is, of course, defined in the language in which the appended claims are expressed.

What is claimed is:

1. A fishing lure for catching fish in water, comprising:

a generally helical body segment having a proximal end, a distal end, and a lumen running therethrough;

a wire, said wire traversing through said lumen of said helical body segment, such that said helical body rotates about said wire through said lumen when said lure is pulled through said water;

first means for hooking said fish operably coupled to said wire; and

a counter-balance arm attached to said wire proximal of said helical body segment,

such that any rotational forces imparted by said rotation to said wire is at least partially counteracted by a gravitational force acting to prevent rotational movement of said counterbalance arm.

2. The fishing lure of claim 1, wherein the material for said helical body segment is selected from the group consisting of plastic, wood, aluminum, stainless steel, lead, and combinations thereof.

3. The artificial fishing lure of claim 1, wherein said proximal end of said helical body segment is tapered.

4. The artificial fishing lure of claim 3, wherein said distal end of said helical body segment is tapered.

5. The artificial fishing lure of claim 3, wherein said distal end of said helical body segment forms a fluked tail.

6. The artificial fishing lure of claim 1, wherein at least one bearing element selected from the group consisting of a bead, a washer and a weight is positioned on at least one end of said helical body segment via said wire.

7. The artificial fishing lure of claim 1, wherein said first means for hooking is positioned at said distal end of said helical body segment via said wire.

8. The artificial fishing lure of claim 1, wherein said first hooking means includes a treble hook.

9. The artificial fishing lure of claim 1, wherein a dressing material is attached to said distal end of said helical body segment.

10. The artificial fishing lure of claim 1, wherein a dressing material is attached to said counter-balance arm.

11. The artificial fishing lure of claim 1, wherein a dressing material is attached to said first hooking means.

12. The artificial fishing lure of claim 11, wherein said dressing material is selected from the group consisting of bucktail, feather and plastic.

13. The artificial fishing lure of claim 1, wherein at least one bearing element is attached to said counter-balance arm.

14. The artificial fishing lure of claim 1, wherein a second hooking means is attached to said counter-balance arm.

15. A fishing lure, comprising:

a body element, wherein said body element has at least two helical body segments, said helical body segments each having a proximal end, a distal end, and a lumen running therethrough;

a wire traversing through said lumens of said helical body segments, such that one of said helical segments is most proximal and one of said helical body segments is most distal;

first means for hooking said fish operably coupled to said wire distal of said most distal body segment; and

a counter-balance arm attached to said wire proximal of the most proximal helical body segment.

16. The fishing lure of claim 15, wherein the proximal end of said most proximal helical body segment of said body element is tapered.

17. The fishing lure of claim 16, wherein the distal end of said most proximal helical body segment of said body element is tapered.

18. The artificial fishing lure of claim 15, wherein the distal end of said most distal helical body segment of said body element forms a fluked tail.

19. The artificial fishing lure of claim 15, wherein at least two of said helical body segments of said body element are separated by a second hooking means.

20. A fishing lure for catching fish in water, comprising:

a body segment having a proximal end, a distal end, a longitudinal axis, a lumen extending along said longitudinal axis therethrough, and means for rotating said body about said lumen when said lure is pulled through said water;

a wire, said wire traversing through said lumen of said body segment, such that said body rotates about said wire through said lumen when said lure is pulled through said water;

first means for hooking said fish operably coupled to said wire distal of said body segment; and

means for counter-balancing attached to said wire proximal of said body segment,

such that any rotational forces imparted by said rotation to said wire is at least partially counteracted by said means for counterbalancing acting to prevent rotational movement of said wire.

21. A fishing lure as recited in claim 20, wherein said means for rotating includes a substantially helical shape of said body segment.

22. A fishing lure as recited in claim 20, wherein said means for counterbalancing is attached to said wire proximal of said body segment.

23. A fishing lure as recited in claim 20, wherein said wire has an eyelet attached at a proximal end of said wire, said means for counterbalancing is attached proximate said eyelet., and said means for counterbalancing includes an arm extending distal of said eyelet.

24. A fishing lure as recited in claim 23, wherein said counterbalancing arm is weighted.

25. A fishing lure as recited in claim 24, wherein said counterbalancing arm includes a second fishing lure having a second hooking means disposed thereon.

Fig. 1

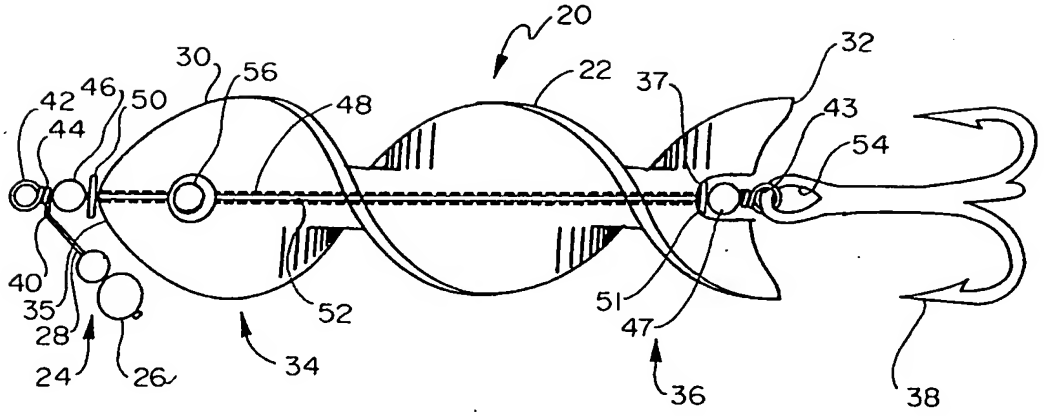


Fig. 2

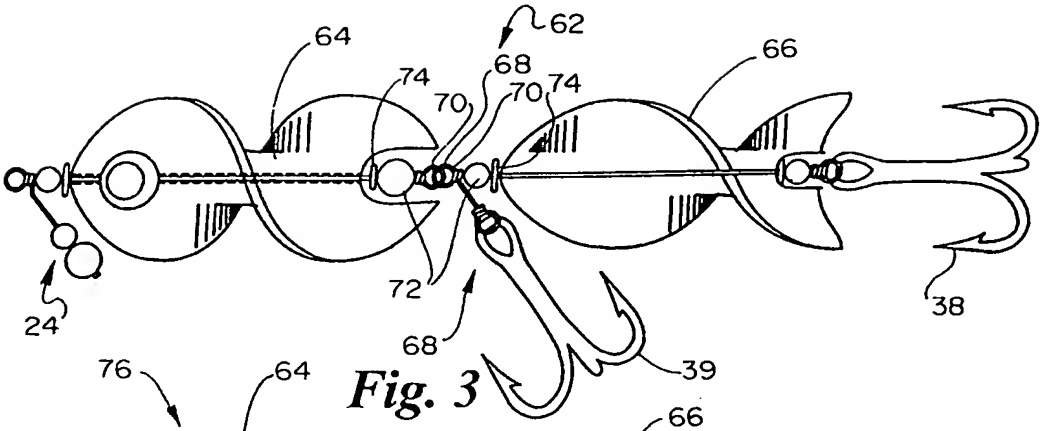


Fig. 3

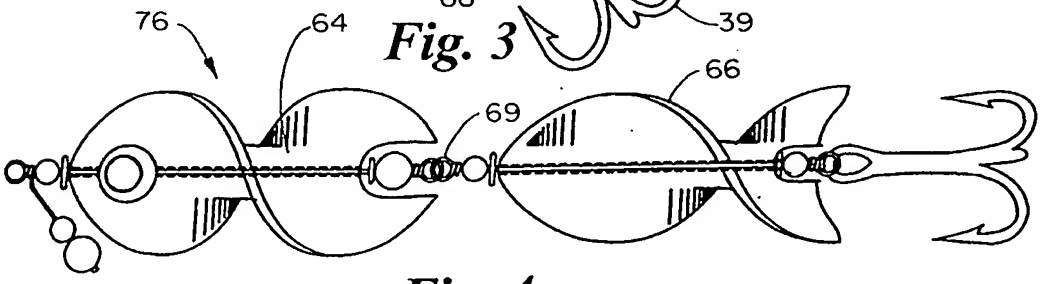


Fig. 4

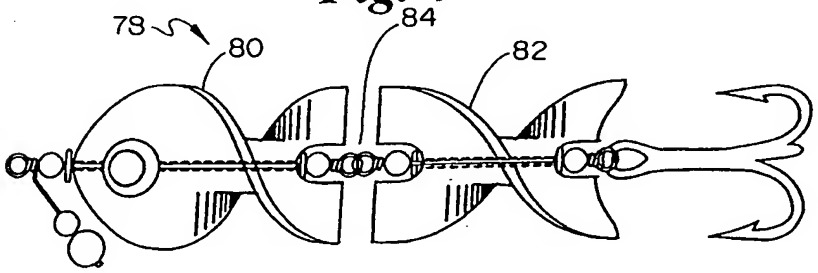


Fig. 5

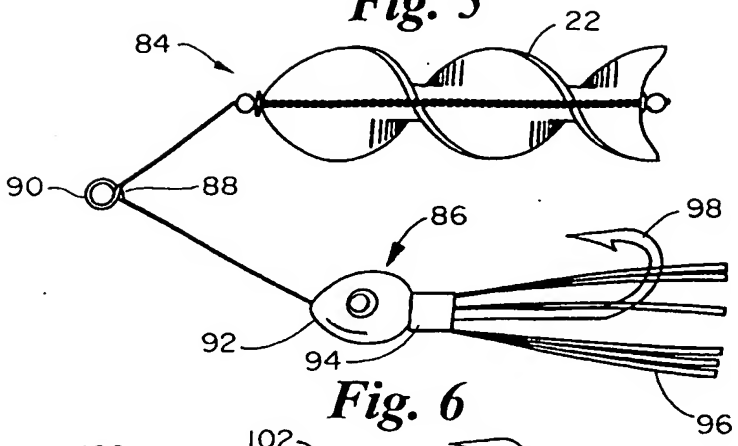


Fig. 6

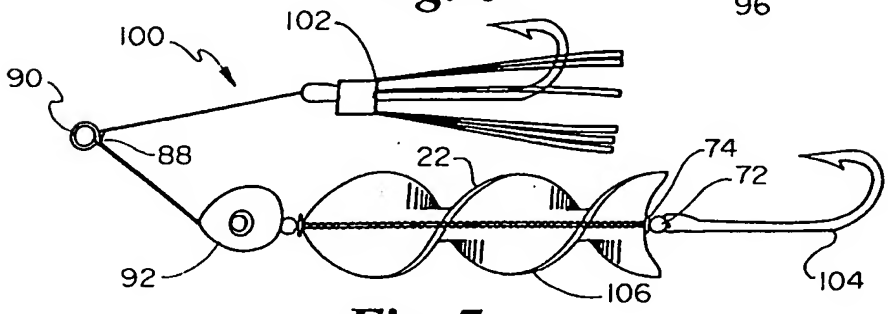


Fig. 7

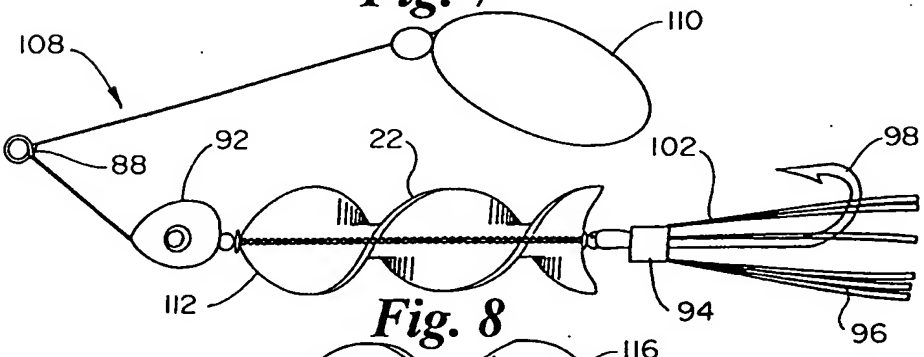
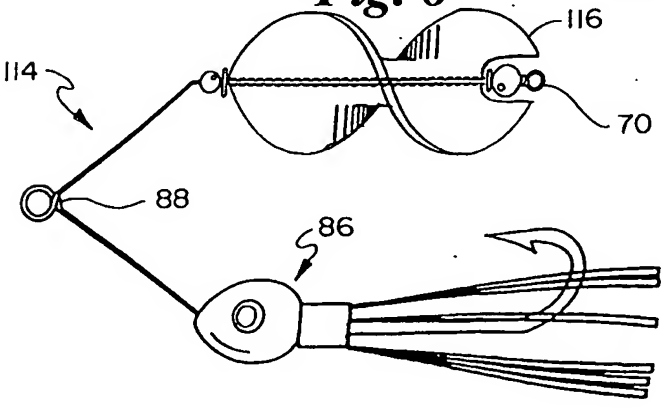


Fig. 8



INTERNATIONAL SEARCH REPORT

International application No.
PCT/US99/10600

A. CLASSIFICATION OF SUBJECT MATTER
IPC(6) :A01K 85/00
US CL :43/43.13
According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 43/43.13, 42.11, 42.14, 42.16, 42.17, 42.18, 42.19, 42.2

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

none

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

none

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 5,491,926 A (MOSTOVSKY) 20 Febuary 1996 (20.02.96), see Fig. 6.	1-14,23
A	US 5,381,621 A (FULLER) 17 January 1995 (17.01.95), see Fig. 1 and Fig. 4.	20-25
A	US 2,778,144 (JONES et al.) 22 January 1957 (22.01.57), see Fig. 1.	1-14
Y	US 2,665,516 A (RACE) 12 January 1954 (12.01.54), see Fig. 1.	14
X	US 2,598,965 A (BAIN) 03 June 1952 (03.06.52), see Fig. 1.	20-22
Y		1-14, 23-25

[X] Further documents are listed in the continuation of Box C. [ ] See patent family annex.

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Date of the actual completion of the international search
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Facsimile No. (703) 305-3230

Authorized officer
KURT ROWAN
Telephone No. (703) 308-2321

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INTERNATIONAL SEARCH REPORT

International application No.
PCT/US99/10600

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X - Y	US 1,140,279 A (MYERS) 18 MAY 1915 (18.05.15), see fig. 3.	15-17, 19 - 18